

CLAIMS

1. (Currently amended) A tap water temperature sensing type of light emitting apparatus, comprising:
a power source (15) comprising:
a generator (10) having a magnetic turbine (11) disposed at a tap end portion,
where water comes out and a coil (13) fixed around the magnetic turbine (11) with a result that the magnetic turbine (11) is[[is]] rotated ~~by the discharge pressure of the water as the water drops from the tap end portion,~~ thereby generating alternating current, and
a rectifier (20) adapted to transform the alternating current generating from the generator (10) to direct current;
a control unit (30) for sensing opening/closing state of the tap tube to control the power source (15) such that if the tap tube is opened, the power source (15) ~~supply~~ is [[done]] enabled and if the tap tube is closed, the power source (15) ~~supply~~ is stopped;
a sensing unit (40), powered by the power source (15), disposed around a portion where hot water and cool water meet for sensing the temperature of water in a tap tube; and
a light emitting unit (50) powered by the power source (15), which includes at least two light emitting diodes, for producing different color lights in accordance with the water temperature read in the sensing unit (40).
2. (Canceled)
3. (Previously presented) A tap water temperature sensing type of light emitting apparatus according to claim 1, wherein the light emitting unit (50) is mounted around a discharge outlet of tap water, the light emitting unit (50) being sealed with a transparent or semi-transparent material.
4. (Previously presented) A tap water temperature sensing type of light emitting apparatus according to claim 1, wherein the light emitting unit (50) further comprises a light transmitting unit (60) that is made of optical fibers for transmitting the light emitted from the light emitting unit (50) to the inside of the discharge outlet of the tap water.

5. (Currently amended) A tap water temperature sensing type of light emitting apparatus according to claim 1, wherein the control unit (30) comprises;
a spring (33) adapted to be fixed to the tap tube at one end thereof[.];
a magnetic valve (31) disposed at the other end of the spring (33)[.]; and
a reed relay (35) mounted on an outer surface of the tap tube in such a manner as to be turned on and off to control the power source (15) when the water flows through the tap tube and when there is no water running therethrough to thereby move the magnetic valve (31) forwardly and backwardly.
6. (Previously presented) A tap water temperature sensing type of light emitting apparatus according to claim 1, wherein the light emitting unit (50) comprises two or more light emitting elements that generate different color lights from each other.
7. (Previously presented) A tap water temperature sensing type of light emitting apparatus according to claim 3, wherein the discharge outlet of the tap water is connected to a shower hose (70) that is made of transparent or semi-transparent material and has high reflection on an outer surface thereof and low reflection on an inner surface thereof.
8. (Currently amended) A tap water temperature sensing type of light emitting apparatus according to claim 1, wherein:
the sensing unit (40) comprises;
a common electrode (k2) extended to a portion where hot water and cool water meet in the tap tube at one end thereof and connected to power at the other end thereof, and
first and second electrodes (k1 and k3) placed at left and right sides of the common electrode (k2) in such a manner as to be submerged partially in the tap water[.]; and
the light emitting unit (50) comprises;
a high temperature driver (57) connected to an end of the first electrode (k1) that is not submerged in the tap water,
a low temperature driver (55) connected to an end of the second electrode (k3) that is not submerged in the tap water,

a high temperature light emitting element connected to the high temperature driver (57) for emitting a light when the tap water is more than a predetermined temperature (T2), and

a low temperature light emitting element connected to the low temperature driver (55) for emitting a light when the tap water is less than a predetermined temperature (T1).

9. (Currently amended) A tap water temperature sensing type of light emitting apparatus according to claim 8, wherein;

the high temperature driver (57) comprises an npn transistor (Q1) and a variable resistance (R3) connected to a base of the npn transistor (Q1) for controlling the voltage of the base of the npn transistor (Q1)[[.]]; and

the low temperature driver (55) comprises a pnp transistor (Q2) and a variable resistance (R4) connected to a base of the pnp transistor (Q2) for controlling the voltage of the base of the pnp transistor (Q2)[[.]]; and

the high temperature emitting element is a light emitting diode (L1) connected to a collector of the npn transistor (Q1) of the high temperature driver (57)[[.]]; and

the low temperature emitting element is a light emitting diode (L2) connected to an emitter of the pnp transistor (Q2) of the low temperature driver (55), the light emitting diode (L2) emitting the different color light from the light emitting diode (L1).

10. (Original) A tap water temperature sensing type of light emitting apparatus according to claim 8, wherein the common electrode (k2) has a higher submersion height than the first and second electrodes (k1 and k3).

11. (Original) A tap water temperature sensing type of light emitting apparatus according to claim 8, wherein the common electrode (k2), the first electrode (k1), and the second electrode (k3) of the sensing unit (40) are formed of carbon or stainless steel.

12-20. (Canceled)

21. (New) A tap water temperature sensing type of light emitting apparatus, comprising:

a power source (15) comprising:

a generator (10) having a magnetic turbine (11) disposed at a tap end portion,

where water comes out and a coil (13) fixed around the magnetic turbine (11) with a result that the magnetic turbine (11) is rotated by the discharge pressure of the water, thereby generating alternating current, and

a rectifier (20) adapted to transform the alternating current generating from the generator (10) to direct current;

a control unit (30) for sensing opening/closing state of the tap tube to control the power source (15) such that if the tap tube is opened, the power source (15) is enabled and if the tap tube is closed, the power source (15) is stopped;

a sensing unit (40), powered by the power source (15), disposed around a portion where hot water and cool water meet for sensing the temperature of water in a tap tube; and

a light emitting unit (50) powered by the power source (15), which includes at least two light emitting diodes, for producing different color lights in accordance with the water temperature read in the sensing unit (40).